

CLAIMS

What is claimed is:

1. A method of identifying an agent that reduces a level of a SWAP-70 polypeptide in a mast cell, the method comprising:
contacting a eukaryotic cell with a test agent; and
determining the effect, if any, of the test agent on the level of SWAP-70 polypeptide in the cell.
2. The method according to claim 1, wherein the agent reduces a level of SWAP-70 mRNA in the cell.
3. The method of claim 1, wherein the level of SWAP-70 polypeptide is determined using an antibody specific for SWAP-70.
4. A method of identifying an agent that reduces an activity of a SWAP-70 polypeptide in a mast cell, the method comprising:
contacting a eukaryotic cell with a test agent; and
determining the effect, if any, of the test agent on an activity of SWAP-70 in the cell.
5. The method of claim 4, wherein the activity of SWAP-70 is an interaction of SWAP-70 with a SWAP-70 interacting protein.
6. The method of claim 5, wherein the cell is a yeast cell, and wherein said determining is by a yeast two-hybrid method.
7. The method of claim 4, wherein the activity of SWAP-70 is an enzymatic activity.
8. The method of claim 4, wherein the cell is a mast cell, and the effect of the test agent on degranulation is determined.

9. A method of identifying an agent that reduces an activity of a SWAP-70 protein, the method comprising:

contacting a SWAP-70 polypeptide with a test agent; and
determining the effect, if any, of the test agent on an activity of the SWAP-70 polypeptide.

10. The method of claim 9, wherein the activity of SWAP-70 is an interaction of SWAP-70 with a SWAP-70 interacting protein other than SWAP-70.

11. The method of claim 9, wherein the activity of SWAP-70 is multimerization with at least a second SWAP-70 protein.

12. The method of claim 9, wherein the activity of SWAP-70 is an enzymatic activity.

13. A method of identifying an agent that inhibits phosphorylation of a SWAP-70 protein, the method comprising:

contacting a SWAP-70 polypeptide and a kinase that phosphorylates SWAP-70 with a test agent; and

determining the effect, if any, of the test agent on phosphorylation of the SWAP-70 polypeptide.

14. The method of claim 11, wherein said kinase is a SYK kinase.

15. A biologically active agent identified by a method according to any one of claims 1-14.

16. A pharmaceutical composition comprising a biologically active agent that reduces a level or an activity of a SWAP-70 protein; and a pharmaceutically acceptable excipient.

17. An isolated mast cell comprising a non-functional SWAP-70 allele.
18. The mast cell according to claim 17, wherein said mast cell is heterologous for said non-functional SWAP-70 allele.
19. The mast cell according to claim 17, wherein said mast cell is homologous for said non-functional SWAP-70 allele.
20. A method of inhibiting mast cell degranulation, comprising contacting a mast cell with an agent that reduces a level of or an activity of a SWAP-70 protein in the mast cell.
21. A method of treating a disorder associated with mast cell degranulation in an individual, the method comprising administering to the individual an agent that reduces a level or an activity of a SWAP-70 polypeptide in the cell.
22. The method according to claim 21, wherein the disorder is an allergic disorder.